

Applicant: Preston Crow, *et al.*  
U.S.S.N.: 10/644,458  
Filing Date: August 20, 2003  
EMC Docket No.: EMC-99-026CON1

**In the Claims:**

Below is a listing of claims in the Application.

**Listing of Claims:**

1. (Original) A memory storage device having an operating system which uses at least one inode for accessing file segments, the inode comprising:  
  
a plurality of rows; and  
  
a portion of the rows storing extents pointing to data blocks, each extent having a field to indicate whether the extent is an indirect extent, a hole extent or a direct extent.
2. (Original) The memory storage device of claim 1, wherein each inode is adapted to allow any portion of the extents stored therein to be indirect extents.
3. (Canceled)
4. (Original) The memory device of claim 1, wherein each extent further comprises a length field, the length field of each indirect extent indicating the number of data blocks pointed to indirectly by the indirect extent.
5. (Original) An automated method of storing data files in a memory storage system, comprising:  
  
assigning an inode to a data file to be stored; and

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writing a plurality of extents in the inode, each extent pointing to a string of one or more data blocks for storing a segment of the data file and having a field for indicating that the extent is one of an indirect extent, a hole extent, and a direct extent.

6. (Original) The method of claim 5, further comprising:

replacing each of a plurality of the direct extents by at least one indirect extent pointing to a data block; and

writing to each data block pointed to by one of the indirect extents the direct extent that is replaced by the one of the indirect extents.

7-12. (Canceled)

13. (Original) A distributed storage system, comprising:

a global cache memory;

a plurality of processors coupled to the global cache memory, each processor having a local memory for storing an operating system; and

a plurality of data storage devices coupled to the global cache memory, the devices and processors capable of communicating by posting messages to each other in the cache memory, each of the devices having a processor and local memory storing an operating system, each operating system including an extent based file system for abstracting file names to physical data blocks in the storage devices, wherein each extent includes a field to indicate whether the extent is an indirect extent, a hole extent or a direct extent.

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14. (Original) The system of claim 13, wherein each operating system is adapted to map files to data blocks by assigning an inode to a file, each inode capable of storing a plurality of extents.

15. (Canceled)

16. (Original) The system of claim 13, each operating system being a UNIX based system.